

Date: Sat, 13 Aug 94 04:30:32 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #234
To: Ham-Homebrew

Ham-Homebrew Digest Sat, 13 Aug 94 Volume 94 : Issue 234

Today's Topics:

 Radio signalling under water?
 SWR calculation needed....
 TNC construction article
 VHF SWR/Watt meter

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 12 Aug 1994 18:33:23 GMT
From: lll-winken.llnl.gov!noc.near.net!ns.draper.com!news.draper.com!
jwy1294a.draper.com!jyoungberg@ames.arpa
Subject: Radio signalling under water?
To: ham-homebrew@ucsd.edu

In article <fred-mckenzie-1008941712250001@k4dii.ksc.nasa.gov> fred-
mckenzie@ksc.nasa.gov (Fred McKenzie) writes:

>From: fred-mckenzie@ksc.nasa.gov (Fred McKenzie)

>Subject: Re: Radio signalling under water?

>Date: Wed, 10 Aug 1994 17:12:25 -0400

>In article <acooneyCu8Cqy.G2u@netcom.com>, acooney@netcom.com (Alan
>Cooney) wrote:

>> I'm in need of advice and/or information on getting signals through

>> to a submerged remote vehicle.....I've considered using ultrasonics,

>Alan-

>There are systems used by divers for similar applications. They use
>ultrasonic sound as a "carrier", which is modulated as if it were a radio
>carrier.

>I think the frequency is in the order of 100 KHz to 200 KHz. It seems
>that there is a trade-off involved in selection of a frequency. At lower
>frequencies, the ambient sea noises (waves, whales, et cetera),
>interfere. At higher frequencies, signal attenuation limits the range.
>There is a "window" between these, that is useable for communications.

>I suggest you ask for information at a diver supply store. I believe
>there are at least two companies that make these systems. (My information
>is from about 15 years back, so please forgive my faulty memory!)

>73, Fred, K4DII

Coincidentally, I just ran into an article this morning in the library:

Coates, Dr Rodney, "Underwater Acoustic Communication," Sea Technology
Magazine, July 1994, pp 41-47.

Excellent overview coverage, especially in things like relating range and
frequency, power requirements, keying formats, and what's on the market.
Readable, too.

73,
Skip, K1NKR

Date: Thu, 11 Aug 1994 20:23:38 GMT
From: ncrwgw2.ncr.com!ncrhub2!ranger!cn2935.DaytonOH.NCR.COM!jra@uunet.uu.net
Subject: SWR calculation needed....
To: ham-homebrew@ucsd.edu

In article <CuDq3D.GAG@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>From: tomb@lsid.hp.com (Tom Bruhns)
>Subject: Re: SWR calculation needed....
>Date: Thu, 11 Aug 1994 16:35:36 GMT

>Brian Ellse (briane@goofy.iaccess.za) wrote:

>: Greetings to one and all,

>: Can somebody please tell me the formula for calculating SWR when given only
>: the forward and reflected power in watts.

>: i.e Bird Inline reads 15w forward and 6w reverse. SWR=?

[derivation of the formula deleted, resulting in:]

> $SWR = (\sqrt{fwdpwr} + \sqrt{rvrspwr}) / (\sqrt{fwdpwr} - \sqrt{rvrspwr})$

>(The $\sqrt{|Z_o|}$ terms cancelled out between numerator and denominator.)

>It's useful to draw a graph of SWR versus reverse/fwd power and tape it
>to the back of the Bird. It's not too hard to put the above formula
>into a spreadsheet and use it to draw the graph for you. The square root
>causes some interesting effects: the reverse/fwd power ratio to get to
>1.05:1 SWR, for example, is about .0006 -- pretty hard to read accurately!
>The example above, 6w reverse and 15 fwd, is about 4.44:1 SWR.

An awfully handy fact in the real world is that 10% reflected power (ie, 10 watts forward and 1 watt reflected) equals 2:1 SWR (well, actually, 1.93:1). Since many of us figure that a SWR of 2:1 or less is a reasonable match (at least in most cases), checking for <10% reflected power is a simple go/no-go antenna system test.

John AG9V
jra@lawdept.daytonOH.ncr.com

Date: Sat, 13 Aug 94 01:45:18 CST
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!cs.utexas.edu!
convex!news.duke.edu!news-feed-1.peachnet.edu!umn.edu!newsdist.tc.umn.edu!
msus1.msus.edu!msus1@ihnp4.ucsd.edu
Subject: TNC construction article
To: ham-homebrew@ucsd.edu

Does anybody know of a construction article for a "general purpose" TNC?

These are my requirements:

- 1) Standard serial connection. (I have 4 different computers and would like to be able to connect to all).
- 2) An internal processor of some type to minimize the overhead on the computer.

If these are too strict, please let me know.
Thanks.

Bill Soranno -- KB0NKX
7 Fairfax
Winona, MN 55987
507/452-3789

Date: Fri, 12 Aug 1994 23:27:04 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!darkstar.UCSC.EDU!news.hal.COM!olivea!
charnel.ecst.csuchico.edu!yeshua.marcam.com!hookup!nic.ott.hookup.net!takeone!
jacques.choquette@@ihnp4.ucsd.edu
Subject: VHF SWR/Watt meter
To: ham-homebrew@ucsd.edu

I've started building J-poles and am interested in constructing other
but the meter I'm using is borrowed. That meter (an RS model) is
discontinued. Tried 4 stores in US and they don't know why. The others
are too expensive and from some other messages saw some but require one
to also read power. Could any one of you gentlemen send along plans to
build one?

The small parts I can get so building is no problem. appreciate any
input to a new ham. Thank you. Jacques VE3TSC

End of Ham-Homebrew Digest V94 #234
